

Amendments to the Specification:

Please replace the paragraph beginning at page 1, line 17, to page 2, line 25, with the following rewritten paragraph:

-- In Fig. 6, reference numeral 1 denotes a plurality of recording element ~~substrate~~ substrates that includes a plurality of discharge energy generation elements (not shown) which apply a discharge energy to the recording liquid and a plurality of discharge ports 6 that discharge the recording liquid, and that discharges the recording liquid by a pressure generated by the discharge energy. Reference numeral 8 denotes a supporting member onto which each of a plurality of recording element substrates 1 are fixedly attached in parallel. Reference numeral 11 denotes a flexible film wiring substrate (wiring film) that includes a plurality of wirings (not shown) electrically mounted on the plural recording element ~~substrate~~ substrates 1 and transmitting an electrical signal from a recording apparatus main body (not shown) to each of a plurality of ~~the~~ recording element ~~substrate~~ substrates 1, and a wiring protection layer (resist) for protecting the wirings. Reference numeral 9 denotes a supporting plate that is fixedly attached to the supporting member 8 and that holds and fixes the flexible film wiring substrate 11. Reference numeral 18 denotes a first sealing resin coated to protect part of electric connection sections among peripheries of the plural recording element substrates 1, the plural recording element substrates 1, and the flexible film wiring substrate 11 from corrosion by the recording liquid and from a short-circuit through the recording liquid. Reference numeral 19 denotes a second sealing resin (indicated by a broken line) that covers electric connection sections between a plurality of electrode pads 7 and a plurality of lead electrodes 13 provided on the flexible film wiring substrate 11 to protect the electric connection sections from an external force generated by, for example, wiping. --

Please replace the paragraph beginning at page 8, line 6, to page 9, line 17, with the following rewritten paragraph:

-- In Fig. 1, reference numeral 6 denotes each of a plurality of discharge ports for discharging a plurality of discharge energy generation elements (not shown) that apply discharge energy to a recording liquid and the recording liquid. Reference numeral 1 denotes a plurality of recording element ~~substrate~~ substrates that discharges the recording

liquid by a pressure generated by the discharge energy. Reference numeral 8 denotes a supporting member to which each of a plurality of recording element substrates 1 are fixedly attached. Reference numeral 11 denotes a flexible film wiring substrate that includes a plurality of wirings electrically mounted on the plural recording element ~~substrate~~ substrates 1 and transmitting an electrical signal from a recording apparatus main body (not shown) to each of a plurality of ~~the~~ recording element ~~substrate~~ substrates 1. Reference numeral 9 denotes a supporting plate fixedly attached to the supporting member 8 and fixing and holding the flexible film wiring substrate 11. Reference numeral 18 denotes a first sealing resin coated on outer peripheries of the recording element substrates 1 to protect part of electric connection sections among the peripheries of the plural recording element substrates 1, the plural recording element substrates 1, and the flexible film wiring substrate 11 from corrosion and short-circuit by the recording liquid. The first sealing resin 18 is also coated on an outer periphery of the flexible film wiring substrate 11 so as to protect the wirings and the like on the flexible film wiring substrate 11 from corrosion by the recording liquid. Reference numeral 19 denotes the second sealing resin that are covered on electric connection sections between a plurality of electrode pads (not shown) provided on the plural recording element substrates 1 and a plurality of lead electrodes 13 provided on the flexible film wiring substrate 11 so as to protect the electric connection sections from an external force generated by, for example, wiping. --

Please replace the paragraph beginning at page 9, line 18, to page 10, line 13, with the following rewritten paragraph:

-- The first embodiment is characterized as follows. The lead electrodes 13 are provided at a desired wiring pitch in an opening portion (device hole) 12 provided to expose the plural recording element substrates 1 to the flexible film wiring substrate 11. In addition, if a plurality of recording element substrates 1 are arranged on the supporting member 8, dummy leads 17 are arranged substantially at the same arrangement pitch as that of the lead electrodes 13 in regions in which, for example, ~~the~~ two recording element substrates 1 are adjacent to each other and regions in which the lead electrodes 13 protruding from the flexible film wiring substrate 11 into the device hole 12 and arranged at the

predetermined arrangement pitch are not provided at all (i.e., the regions in which the lead electrodes 13 at a wider pitch than the predetermined arrangement pitch of the lead electrodes 13 are not present at all). As a result, the leads 13 and 17 are all arranged at the desired arrangement pitch in a space from one end portion of one side of the device hole 12 to the other end portion thereof. --

Please replace the paragraph beginning at page 5, line 19, to page 6, line 17, with the following rewritten paragraph:

-- Further, it is another object of the present invention to provide a liquid jet recording head comprising a recording element substrate which includes a recoding liquid discharge port, and includes a discharge energy generation element that generates a discharge energy, a flexible film wiring substrate which includes an opening for exposing the recording element substrate to an outside, and includes a plurality of lead electrodes projecting inward of the opening, the flexible film wiring substrate connected to the recording element substrate so as to apply an electrical signal to the discharge energy generation element, a plurality of electrode pads provided on the recording element substrate, the electrode pads electrically connected to the lead electrodes, respectively so as to electrically connect the recording element substrate to the flexible film wiring substrate, and a dummy lead which is provided inward of the opening to protrude to be shorter than each of the lead electrodes, and which is not electrically connected to each of the electrode pad, the dummy lead provided to be adjacent to at least one lead electrode group comprising of a plurality of lead ~~electrodes~~ electrode pads among the plurality of lead electrodes. --

Please replace the paragraph beginning at page 11, line 24, to page 12, line 5, with the following rewritten paragraph:

-- Furthermore, in the first embodiment, the dummy lead 17 is shorter than the lead electrode 13. Therefore, it is possible to prevent the dummy leads 17 from contacting with any of the recording element substrates 1 to cause a short-circuit and to prevent the dummy leads 17 from being taken for the lead electrodes 13 and connected to the respective electrode pads 7. --

Please replace the paragraph beginning at page 12, line 6, to page 13, line 5, with the following rewritten paragraph:

-- Thus, it is important that each dummy lead 17 is long enough to ensure discriminating the dummy lead 17 from the ordinary lead electrode 13 and to prevent the second sealing resin 19 from being depressed as stated above. Namely, it is preferable that the length of each dummy lead 17 is set so that a tip end of the dummy lead 17 does not contact with an end face of any of the recording element ~~substrate~~ substrates 1, in accordance with bonding accuracy for bonding the flexible film wiring substrate 11. The present inventor discovered, after repeated considerations, that it is optimum to set the length of the dummy lead 17 at about 40 to 60 % of the length of the lead electrode 13 so as to be able to maintain a bonding performance of each lead electrode 13 and maintain a coating performance of the second sealing resin 19. Nevertheless, even if the length of the dummy lead 17 is out of the above-stated range, this does not depart from the spirit of the present invention as long as the objects of the present invention, that is, to ensure distinguishing the dummy leads 17 from the ordinary lead electrodes 13 and to prevent the second sealing resin 19 from being depressed can be realized. In the first embodiment, the length of each lead electrode 13 is set at 560 micrometers and that of each dummy lead 17 is set at 250 micrometers. --

Please replace the paragraph beginning at page 15, line 22, to page 16, line 15, with the following rewritten paragraph:

-- The gap formed by the arrangement pitch between the adjacent lead electrodes 13 or between the lead electrode 13 and the dummy lead 17 may be set so as not to cause a short-circuit between the adjacent leads and so as not to depress the second sealing resin 19. Actually, depending on a bonding method to be adopted, by setting the gap at a minimum in a range in which the short circuit between the adjacent leads does not occur, the depression of the second sealing resin 19 may be prevented. Alternatively, if the gap between the leads that may possibly cause the depression of the second sealing ~~rein~~ resin 19 has to be unavoidably adopted because of the configuration of the liquid jet recording head, the widths of the dummy leads 17 may be appropriately increased. The present inventor discovered, after repeated considerations, that it is optimum to set the

gap at about 40 to 100 micrometers so as to be able to prevent the short-circuit between the adjacent leads and to prevent the depression of the second sealing resin 9 19.

Nevertheless, even if the gap is out of the above-stated range, this does not depart from the spirit of the present invention as long as the objects of the present invention, that is, to prevent the short-circuit between the adjacent leads and to prevent the depression of the second sealing resin 19 can be realized. It is, however, preferable that the distance between the lead electrode 13 and the dummy lead 17 is set to satisfy the relationship of $0.75P \leq P \leq 1.25P$, where P is the arrangement pitch of the lead electrodes 13. –

Please replace the paragraph beginning at page 17, line 9, to page 18, line 17, with the following rewritten paragraph:

-- As shown in Figs. 4A to 4C, the liquid jet recording head according to the present invention is constructed by a member that includes a plurality of recording element substrates (two recording element substrates for convenience of description herein) 1a and 1b different in shape and size, the supporting member 8 and the flexible film wiring substrate 11. In a discharge port plate 5 on a front surface of each of the recording element substrates 1a and 1b, a plurality of discharge ports 6 for discharging the recording liquid are formed in two columns to correspond to discharge energy generation elements (e.g., electro-thermal conversion elements). At a center of a rear surface thereof, recording liquid supply ports 3 penetrated to supply the recording liquid are formed at a length substantially equally to a length of the discharge ports 6 in an arrangement direction. Further, a plurality of electrode pads 7 electrically connected to the discharge energy generation elements 4, respectively, are provided on each end portion of each of the recording element substrates ~~substrate~~ substrates 1 (1a or 1b). On these electrode pads 7, stud bumps 14 using ordinary wirings are provided, respectively. Alternatively, solder bumps or plated bumps other than the stud bumps may be provided thereon, respectively. The rear surface of each of the recording element substrates 1a and 1b is arranged above the supporting member 8 to be proximate thereto and fixedly bonded to a predetermined position at accuracy as high as several micrometers to several tens of micrometers. Although only a few discharge ports 6 and a few electrodes 7 are

shown, several tens to several hundreds of discharge ports 6 and electrodes 7 are actually provided on each recording head.

Please replace the paragraph beginning at page 18, line 18, to page 19, line 19, with the following rewritten paragraph:

-- ~~Two opening portions 12a and 12b are~~ An opening portion 12 is provided in the flexible film wiring substrate 11 to expose each of the plurality of the two recording element substrates 1a and 1b, respectively recording element substrates 1 (1a and 1b). The electrode leads 13 electrically connected to the electrode pads 7 on the respective recording element substrates 1 (1a and 1b) as many as the electrode pads 7 are provided around the opening portion 12 ~~portions 12a and 12b, respectively~~. The electrode leads 13 are electrically connected to the electrode pads 7 on the respective recording element substrates ~~1a and 1b~~ 1 (1a and 1b) through the stud bumps 14. The connection between the electrode leads 13 and the electrode pads 7 is established by applying an arbitrary load and an arbitrary ultrasonic vibration to the electrode leads 13 and the electrode pads 7 while heating the electrode connection sections at 150 to 200°C, thereby causing metal coupling to connection surfaces between the gold bumps 14 on the electrode pads 7 and the electrode leads 13 which are provided on the flexible film wiring substrate 11 and which are plated with gold. In the embodiments, single-point bonding is employed. Alternatively, any other connection method such as a gang bonding method for collectively connecting all the connection sections using thermo-compression unit, a reflow method for melting the solder bumps, a wire bonding method for connecting the corresponding electrodes by wires, or an ACF connection method may be used. --